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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,680	01/11/2005	Zenichirou Shida	OGW-0344	9386

7590 08/02/2007  
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EXAMINER
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MAKI, STEVEN D

ART UNIT	PAPER NUMBER
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1733

MAIL DATE	DELIVERY MODE
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08/02/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/520,680	<b>Applicant(s)</b> SHIDA, ZENICHIROU	
	<b>Examiner</b> Steven D. Maki	<b>Art Unit</b> 1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2007.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Art Unit: 1733

1) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3) **Claims 1, 5-6, 8, 10-11, 13 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Carolla et al (US 4,722,378).**

Carolla et al is applied as in paragraph 3 of the last office action dated 1-9-07 (paragraph 3 of the last office action dated 1-9-07) is incorporated herein by reference).

Applicant states: "... Claims 1 and 8 result in an outer end of second land portion (from the outer side of a tire mounted on a vehicle) that is sunk radially inwardly with respect to the tread surface." (emphasis added, page 7 of response filed 5-11-07).

Strictly speaking, the entire actual upper surface of applicant's individual land 3A in figure 2 is the tread surface between the grooves 2, 2. The upper surface of applicant's land 3A therefore cannot be sunken with respect to the tread surface - it is the tread surface. However, it is understood by one of ordinary skill in the art that the "tread surface" is the overall curvature of the tread in the lateral direction. In this proper context, the tread surface of applicant's tire is the overall curvature CO instead of the actual upper surfaces of the individual lands. The axially outer edge of applicant's land

Art Unit: 1733

portion 3A is "sunken" with respect to the tread surface C0 by the distance d as shown in applicant's figure 2. Carolla et al's "tread surface", like that of applicant, is not defined as being the upper surfaces of the individual lands. Instead, Carolla et al's tread surface, like that of applicant's, is the overall curvature of the tread in the lateral direction. Carolla et al teaches that the overall curvature of the tread in the lateral direction is the "tread arc" (col. 5 lines 37-40). Carolla et al's "tread arc" is not coincident with the convex surfaces of the land portions. In other words, the "tread arc" connects the maximum amplitude points of the land portions such that both the axially inner edge and the axially outer edge are "sunken" with respect to the "tread arc". Carolla et al's "tread arc" directly corresponds to applicant's circular arc C0 defining the tread surface 1. It is emphasized that applicant expressly refers to "tread surface C0" on line 7 of the second full paragraph of page 7 of the response filed 5-11-07.

Applicant argues "...the inner wall of the groove 2 that is between the first and second lands on the outer side of the tire will be of lower height than the outer wall of that groove" (emphasis added, page 7 of response filed 5-11-07). This argument is not commensurate in scope with the claims and is therefore not persuasive. None of applicant's require the inner wall of the groove being a lower height than the outer wall of that groove.

Applicant argues that the claimed configuration results in more even distribution of ground contact pressure to reduce uneven wear and improve turning performance. This argument is not persuasive. First: Unexpected results cannot overcome a 102 rejection. Second: The claimed invention has not been compared with Carolla et al.

Art Unit: 1733

Third: The results are not commensurate in scope with the claims. Example: None of applicant's require the inner wall of the groove being a lower height than the outer wall of that groove.

With respect to figures 9 and 10 of Carolla et al, applicant argues that the outer edge of the second land portion (from the outer side of a tire mounted on a vehicle) is not sunk radially inwardly with respect to the tread surface. Applicant is incorrect. The inner edge and the outer edge of the convex surface of each of Carolla et al's lands portions are "sunk" relative to the tread surface defined by the "tread arc". It is noted that none of the claims describe "sunk". It is additionally noted that none of the claims require a specific overall tread curvature in the lateral direction. In sharp contrast, the claims merely recite "tread surface". The description of "tread surface" is sufficiently broad to read on the surface of the tread defined by Carolla et al's tread arc.

On pages 8 and 9 of the response filed 5-11-07, applicant compares claim 1 with figure 2. In response, examiner mentions that figure 2 contains numerous limitations that are not required by claim 1. For example, claim 1 fails to require the inner wall 3y of the second groove 2 to be shorter than the outer wall.

Applicant states "...Applicant will discuss this formula [Carolla et al's formula of  $y = Ax^2 + Bx + C$  for the convex surface of the individual land instead of the tread surface] and its application to the tread surface" (emphasis added, page 10 of response filed 5-11-07) and "Applying the values of x, y and h to the ratio d/D of Claim 1 ..." (page 10 of response filed 7-31-07). These statements make no sense. Applicant is confusing the

tread surface (the overall curvature of the tread) with the convex surface of the land (the surface of an individual tread element of the tread).

Applicant compares the claimed ratio of  $d/D$  with Carolla et al's ratio of  $x/h$  and  $y/h$ . These comparisons are irrelevant. The terms  $x$  and  $y$  in Carolla et al's formula do not correspond to applicant's term  $d$ . In contrast, Carolla et al's maximum amplitude corresponds to applicant's term  $d$  because it represents the distance between an edge of the land and the tread surface.

Applicant asserts that " $d$ " is the difference between the height of the inner groove wall  $3y$  and the height " $D$ ". (page 11 of response filed 7-31-07). This argument is not commensurate in scope with the claims because the claims require depth  $d$  to be determined with respect to "tread surface" instead of "height  $D$ ".

Applicant comments that the location of the outer side of the vehicle is not disclosed in Carolla et al. This argument is irrelevant because (1) none of the claims require the tire to be mounted on a vehicle and (2) either side of Carolla et al's tire can be the outer side depending on the desired mounting of the tire.

As to claims 13 and 14, Carolla et al teaches applying the convex teachings to block treads and identifies a prior art block tread shown in figure 2 comprising a "center main groove", "left main groove" and "right main groove". Also see figure 6. As to claims 13 and 14, the outer block rows in figure 2 may be interpreted as being in "shoulder regions" and the six block rows between the outer block rows may be interpreted as being in a center region. The left and right main grooves read on the

Art Unit: 1733

outermost circumferential grooves in figure 2. Claims 13 and 14 fail to exclude more than three grooves.

**4) Claims 1, 3-8 and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carolla et al in view of Kogure et al (US 5355922).**

Carolla et al and Kogure et al are applied as in paragraph 4 of the last office action dated 1-9-07 (paragraph 4 of the last office action dated 1-9-07) is incorporated herein by reference).

Applicant recognizes that Kogure et al suggests deeper grooves. Examiner adds that as the grooves deepen, the ratio  $d/D$  of Carolla et al falls further within the claimed range. Applicant's specific arguments regarding Kogure et al rely upon the incorrect premise that "x", "y" correspond to "d" and are therefore not persuasive.

As to claims 13 and 14, Carolla et al teaches applying the convex teachings to block treads and identifies a prior art block tread shown in figure 2 comprising a "center main groove", "left main groove" and "right main groove". Also see figure 6. As to claims 13 and 14, the outer block rows in figure 2 may be interpreted as being in "shoulder regions" and the six block rows between the outer block rows may be interpreted as being in a center region. The left and right main grooves read on the outermost circumferential grooves in figure 2. Claims 13 and 14 fail to exclude more than three grooves. Thus, Carolla et al suggests applying the convex teachings to a tread having shoulder regions, center main groove, left main groove and right main groove as in claims 13 and 14.

**5) Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carolla et al in view of Aoki et al (US 5720831) and Tozawa et al (US 2001/0054464).**

Carolla et al, Aoki et al and Tozawa are applied as in paragraph 5 of the last office action dated 1-9-07 (paragraph 5 of the last office action dated 1-9-07) is incorporated herein by reference).

Applicant recognizes that Aoki et al and Tozawa et al suggest deeper grooves. Examiner adds that as the grooves deepen, the ratio  $d/D$  of Carolla et al falls further within the claimed range. Applicant's specific arguments regarding Aoki et al and Tozawa rely upon the incorrect premise that "x", "y" correspond to "d" and are therefore not persuasive.

As to claims 13 and 14, Carolla et al teaches applying the convex teachings to block treads and identifies a prior art block tread shown in figure 2 comprising a "center main groove", "left main groove" and "right main groove". Also see figure 6. As to claims 13 and 14, the outer block rows in figure 2 may be interpreted as being in "shoulder regions" and the six block rows between the outer block rows may be interpreted as being in a center region. The left and right main grooves read on the outermost circumferential grooves in figure 2. Claims 13 and 14 fail to exclude more than three grooves. Claims 13 and 14 fail to exclude more than three grooves. Thus, Carolla et al suggests applying the convex teachings to a tread having shoulder regions, center main groove, left main groove and right main groove as in claims 13 and 14.



Remarks

6) Applicant's arguments with respect to claims 13 and 14 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed 5-11-07 have been fully considered but they are not persuasive. Applicant's arguments are addressed above.

7) No claim is allowed.

8) Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The remaining references are of interest.

9) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM.

Art Unit: 1733

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Steven D. Maki  
July 31, 2007

  
**STEVEN D. MAKI**  
**PRIMARY EXAMINER** 7-31-07